



**RADM Richard Brooks**

**Commander, Naval Safety Center**



# Secretary Rumsfeld's Challenge



THE SECRETARY OF DEFENSE  
1000 DEFENSE PENTAGON  
WASHINGTON, DC 20301-1000

May 19, 2003

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS  
CHAIRMAN OF THE JOINT CHIEFS OF STAFF  
UNDER SECRETARIES OF DEFENSE  
DIRECTOR, DEFENSE RESEARCH AND ENGINEERING  
ASSISTANT SECRETARIES OF DEFENSE  
GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE  
INSPECTOR GENERAL OF THE DEPARTMENT OF DEFENSE  
DIRECTOR, OPERATIONAL TEST AND EVALUATION  
ASSISTANTS TO THE SECRETARY OF DEFENSE  
DIRECTOR, ADMINISTRATION AND MANAGEMENT  
DIRECTOR, FORCE TRANSFORMATION  
DIRECTOR, NET ASSESSMENT  
DIRECTOR, PROGRAM ANALYSIS AND EVALUATION  
DIRECTORS OF THE DEFENSE AGENCIES  
DIRECTORS OF THE DOD FIELD ACTIVITIES

SUBJECT: Reducing Preventable Accidents

World-class organizations do not tolerate preventable accidents. Our accident rates have increased recently, and we need to turn this situation around. I challenge all of you to reduce the number of mishaps and accident rates by at least 50% in the next two years. ~~These goals are achievable, and will directly increase our operational readiness. We owe no less to the men and women who defend our Nation.~~

I have asked the Under Secretary of Defense for Personnel and Readiness to lead a department-wide effort to focus our accident reduction effort. I intend to be updated on our progress routinely. The USD(P&R) will provide detailed instructions in separate correspondence.



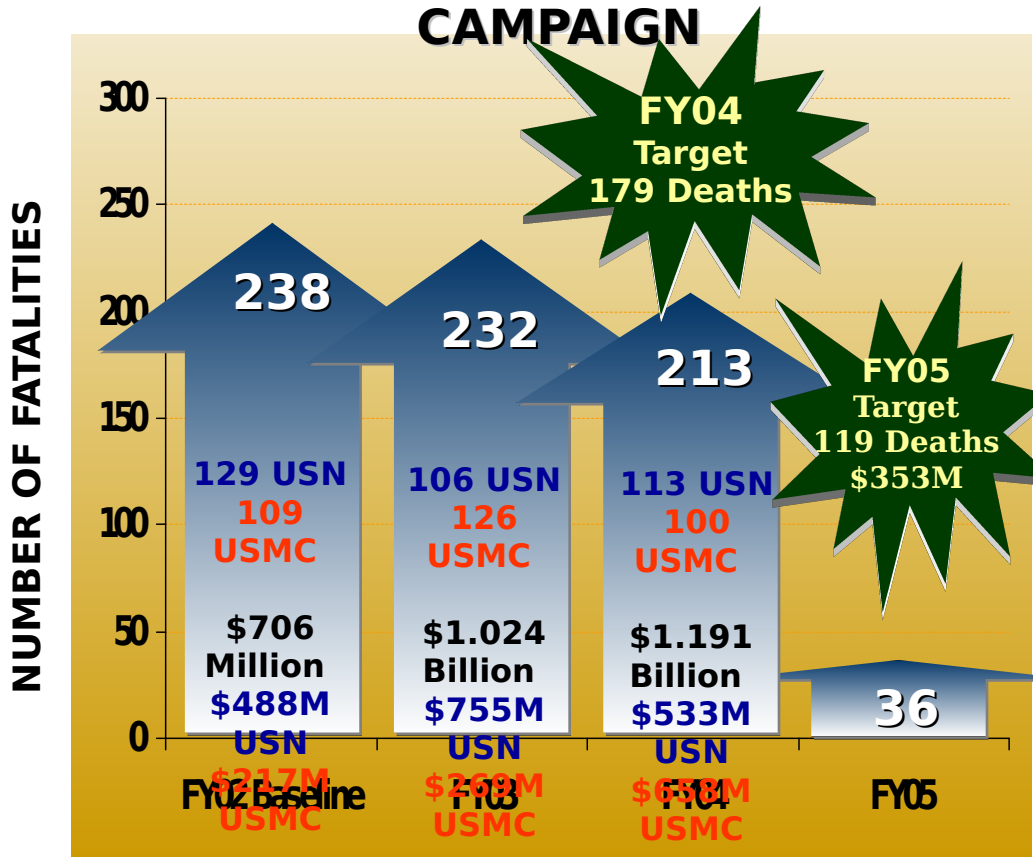
U06916-03

***“World-class organizations do not tolerate preventable accidents. Our accident rates have increased recently, and we need to turn this situation around. I challenge all of you to reduce the number of mishaps and accident rates by at least 50% in the next two years.”***

Memorandum from Secretary of Defense  
19 May 2003

# Where We Are

## FATALITIES & RESOURCES LOST DURING 50% MISHAP REDUCTION CAMPAIGN



We have  
experienced  
36 deaths in FY05  
(23 USN & 13 USMC)

25 PMV Deaths  
(16 USN & 9 USMC)

Our FY05 50%  
mishap reduction  
goal is 119.

in FY04!

**OUR ENDSTATE GOAL IS  
ZERO!**

# ***Magnitude of Accidents***

***In FY04, Navy and Marine Corps Mishaps Resulted In:***

## **NAVY**

- **1 Navy death every 78 hours (3 days)**
- **1 POV death every 120 hours (5 days)**
- **1 Aviation death every 73 days**
- **1 Active duty military injury every 6 hours**
- **1.8 Military members hospitalized every day**
- **11.33 Civilian man-years lost**
- **1 Aircraft destroyed every 41 days**
- **\$1.33 Million a day in aviation losses**

## **MARINE CORPS**

- **1 Marine death every 88 hours (4 days)**
- **1 POV death every 191 hours (8 days)**
- **1 Aviation death every 26 days**
- **1 Active duty military injury every 25 hours**
- **1.9 Military members hospitalized every day**
- **2.53 Civilian man-years lost**
- **1 Aircraft destroyed every 19 days**
- **\$1.74 Million a day in aviation losses**

# Areas of Greatest Concern for USN/USMC

## The Largest Challenge: Aviation - Traffic - Recreation!



FISCAL YEAR	COST	
	OVERAL L	AVIATIO N
FY00-04	\$4.4M	\$3.8M
FY02	\$683M	\$587M
FY03	\$1.024M	\$956M
FY04	\$1.192B	\$1.123B
FY05	\$160M	\$158M

(\$\$\$ totals represent cost of all reported mishaps and includes cost of fatality IAW DOD 6055 and DOD property loss)

DEATHS								
OVERAL L	%	PMV			RECREATION			
		Air	Afloat	Shore	Air	Afloat	Shore	%
1,071	582 54%	90	124	368	149 14%	29	35	85
238	140 59%	30	32	78	32 13%	9	5	18
232	119 51%	17	31	71	32 14%	9	6	17
213	119 56%	16	20	83	32 15%	4	9	19
36	25 69%	3	6	16	5 14%	1	1	3

NSC Data: 02 December 2004

# Commander's Assessment

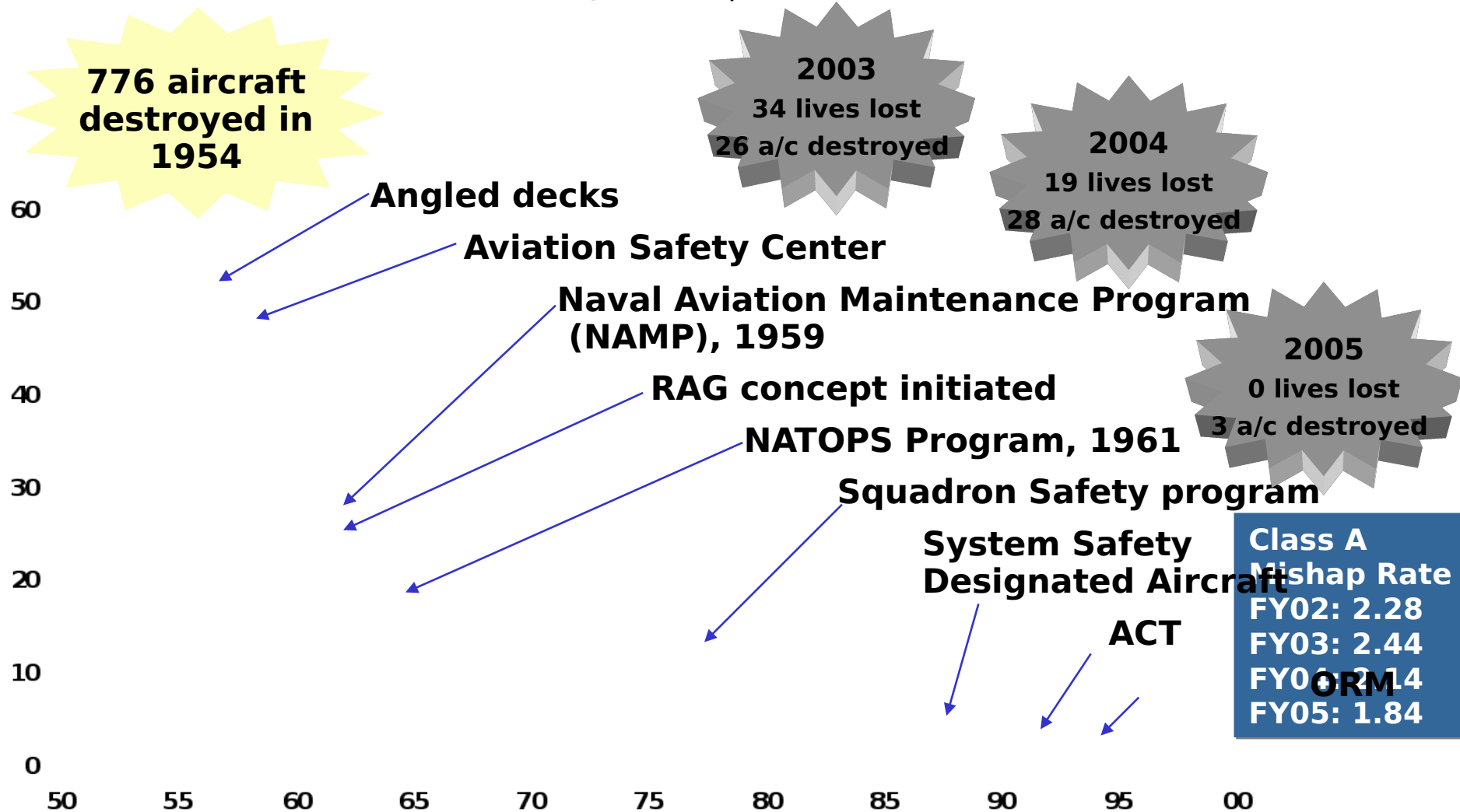
## TOP CONCERNS

- Off-Duty (PMV, REC) the challenge
- 50% Mishap Reduction Campaign NOT consistently reaching deckplates
- Cultural change takes time

- **Status Quo Will Not Get the Job Done.** Good programs exist and have produced some good results, but...
- **Leadership and Accountability Required.** Most mishaps can be prevented with appropriate intrusive leadership and involvement at every level.
- **Cradle to Grave Training as Long-Term Fix.** 5 Vector Model being worked by Navy Center for Personal Development.
- **Safety Center & Navy-Marine Corps Focus.** Predictive and Preparative vice Reactive.
- **Utilize All Available Safety Resources.** Army Safety Management Information System, Traffic Safety Toolbox, Leave/Liberty Risk Assessments, etc.
- **Emphasize Safety and Risk Management "24x7."** A way of life. Not a concept that gets increased emphasis post-mishap.
- **Balanced Acquisition Approach.** Balanced acquisition approach for platforms and COTS/emergent technologies to reduce mishaps.
- **ORM is Getting There, But More to Do to Ingrain It On and Off-Duty.**
- **Bottom Line** **PLATFORM MISHAP REDUCTION - ACHIEVABLE. OFF-DUTY - HARD**

# Naval Aviation Mishap History

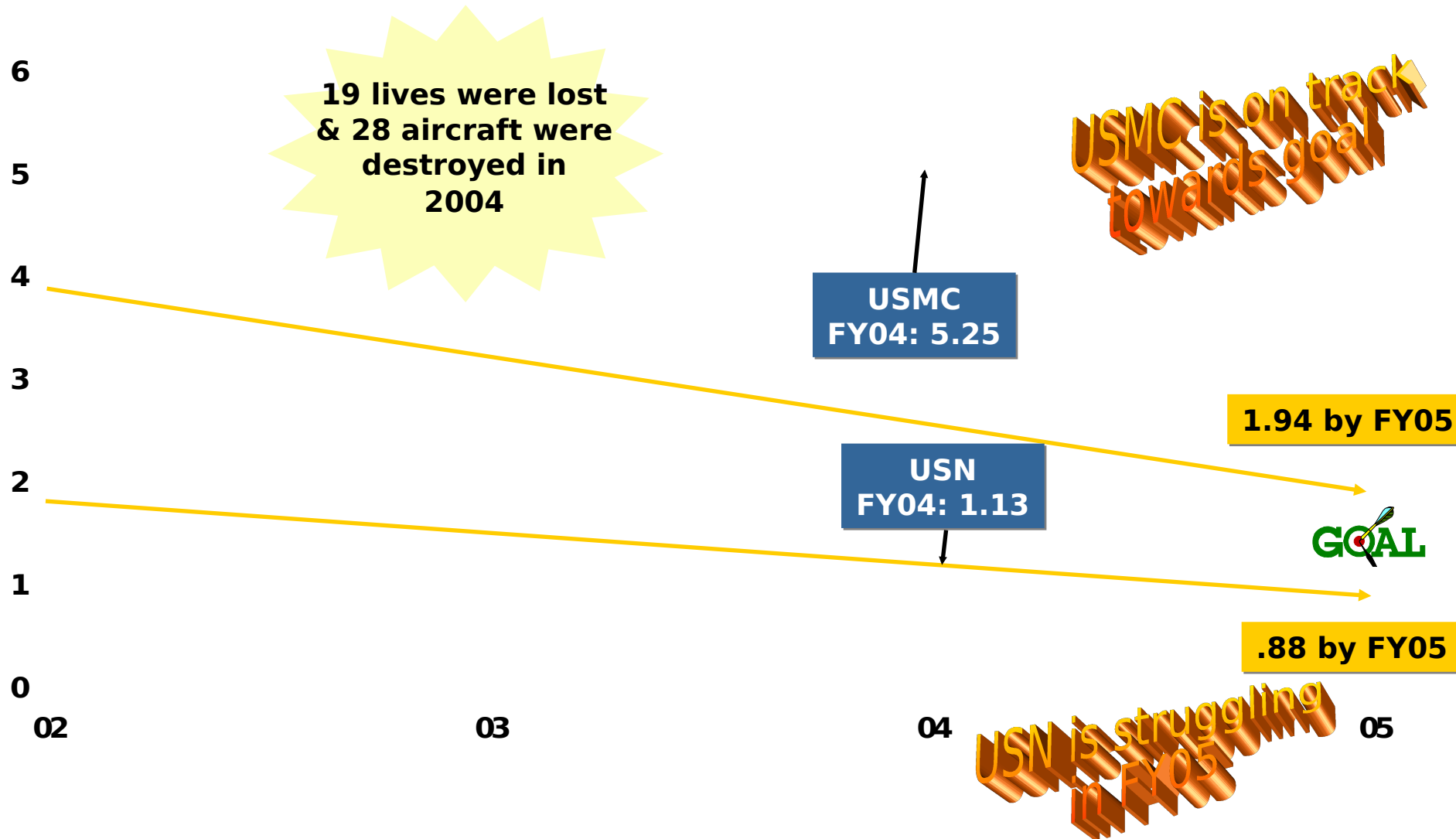
USN/USMC, FY50-05



NSC Data: 02 December 2004

# Naval Aviation Mishap Trend

USN/USMC, FY02-04



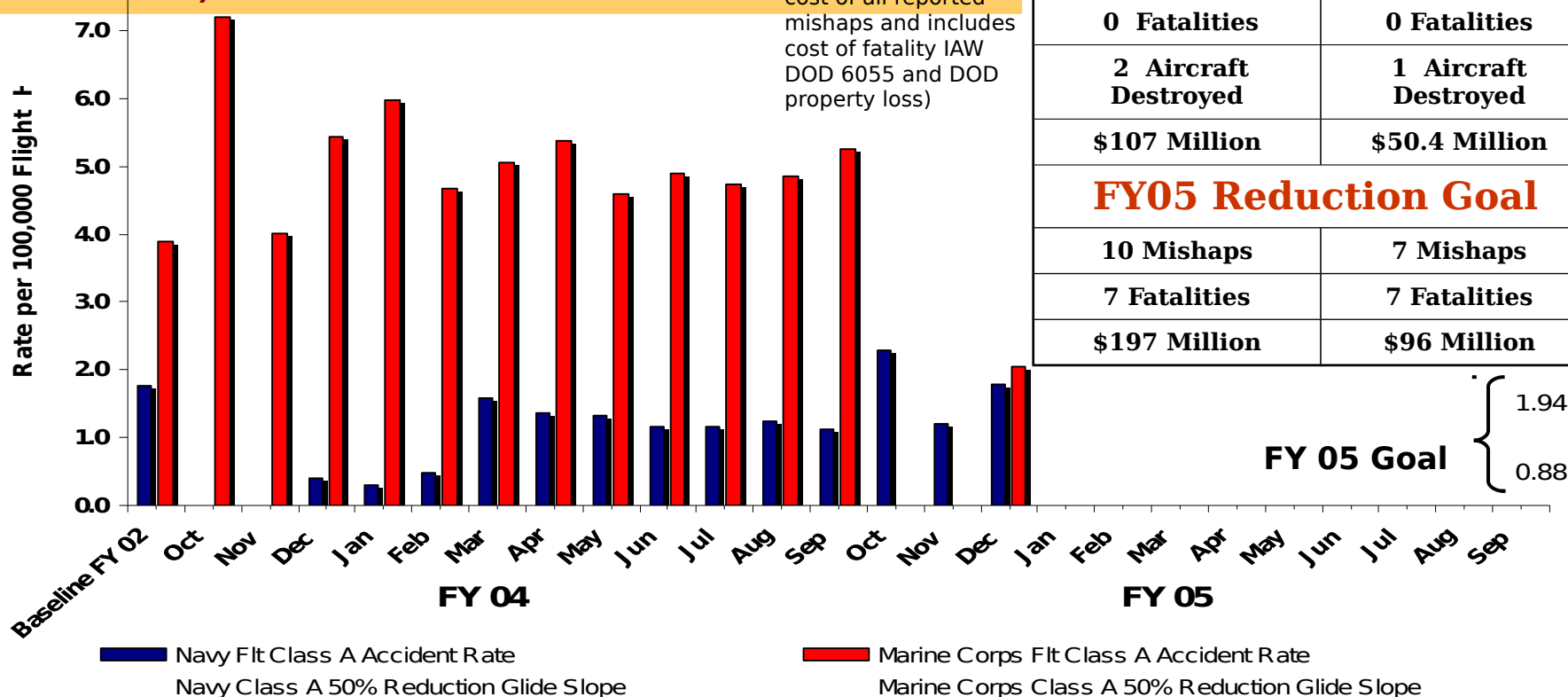


# Status Check (Class-A Flight Mishaps)

## Leading Causal Factors

- **Human Error (89%)**
  - Aircrew (breakdown in Crew Resource Management, poor decision making, failure to properly perform emergency procedures)
  - Supervisory (failure to provide adequate guidance and training)
- **Material/Systems Malfunction (11%)**
  - Material/component catastrophic failure (no human error involved)

(\$\$ totals represent cost of all reported mishaps and includes cost of fatality IAW DOD 6055 and DOD property loss)

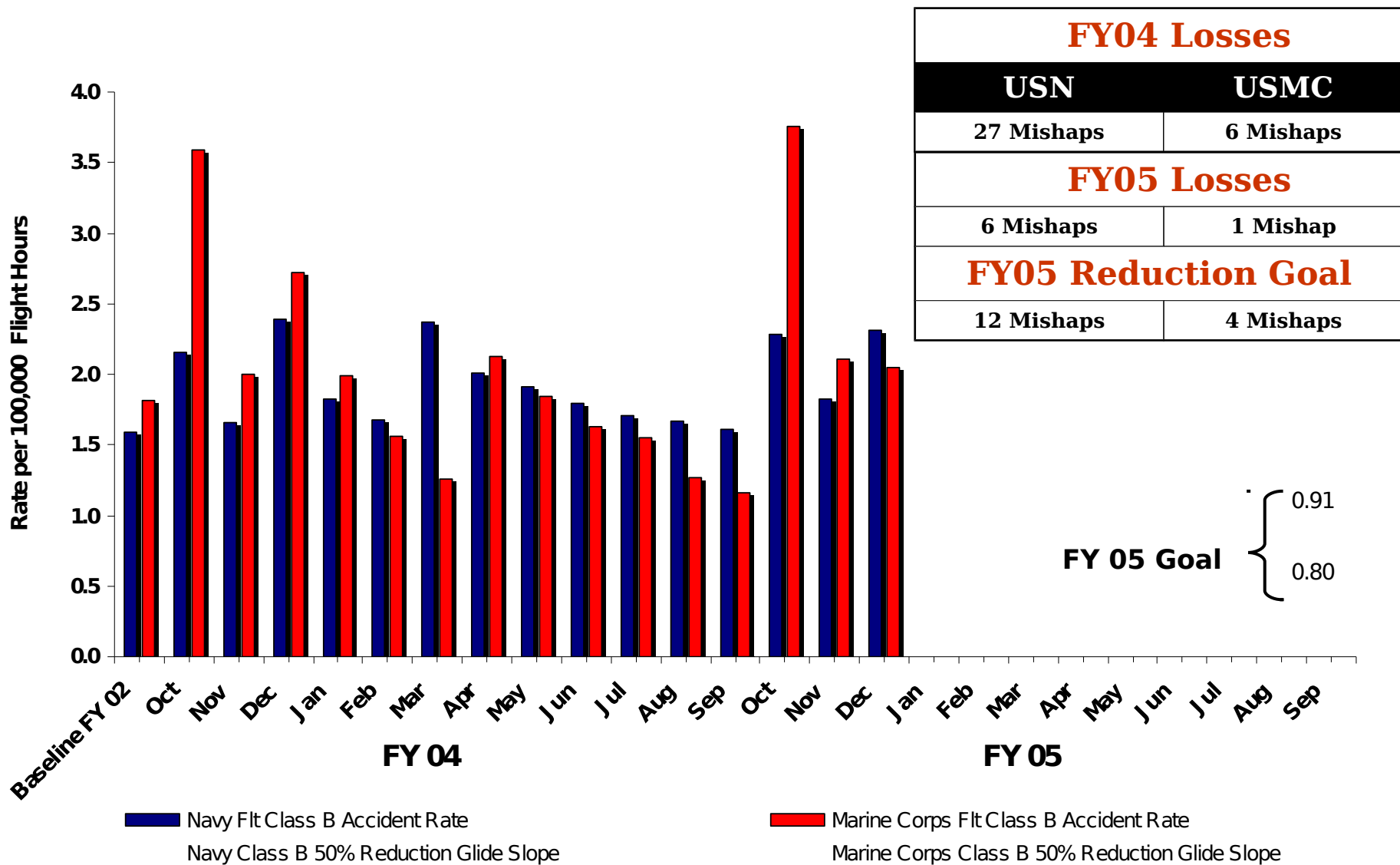


## FY04 Losses

USN	USMC
12 Mishaps	18 Mishaps
5 Fatalities	14 Fatalities
9 Aircraft Destroyed	19 Aircraft Destroyed
\$487 Million	\$636 Million
FY05 Losses	
3 Mishaps	1 Mishap
0 Fatalities	0 Fatalities
2 Aircraft Destroyed	1 Aircraft Destroyed
\$107 Million	\$50.4 Million
FY05 Reduction Goal	
10 Mishaps	7 Mishaps
7 Fatalities	7 Fatalities
\$197 Million	\$96 Million

# Status Check (Class-B Flight Mishaps)

## 1 year remains...



A photograph of a US Navy helicopter, possibly an AH-1Z Viper, being hoisted by a crane over the ocean. The helicopter is suspended in the air, tilted at an angle, with its landing gear and rotors visible. The background shows the blue sea and a clear sky. The text "Human Error.... The Major Problem" is overlaid in large, bold, orange letters.


# ***Human Error.... The Major Problem***

***Almost 9 out of 10 USN/USMC Class-A Flight  
Mishaps  
(FY97-01) involved human error.***

# Human Error

USN/USMC, FY98-03

## No. of Class-A Mishaps

**USN Aviation**  120 of 133

 HE 90%

Non-  
HE  
10%

**USMC Aviation**  62 of 71

 HE 87%

Non-  
HE  
13%

**Navy Afloat**  48 of 51

 HE 94%

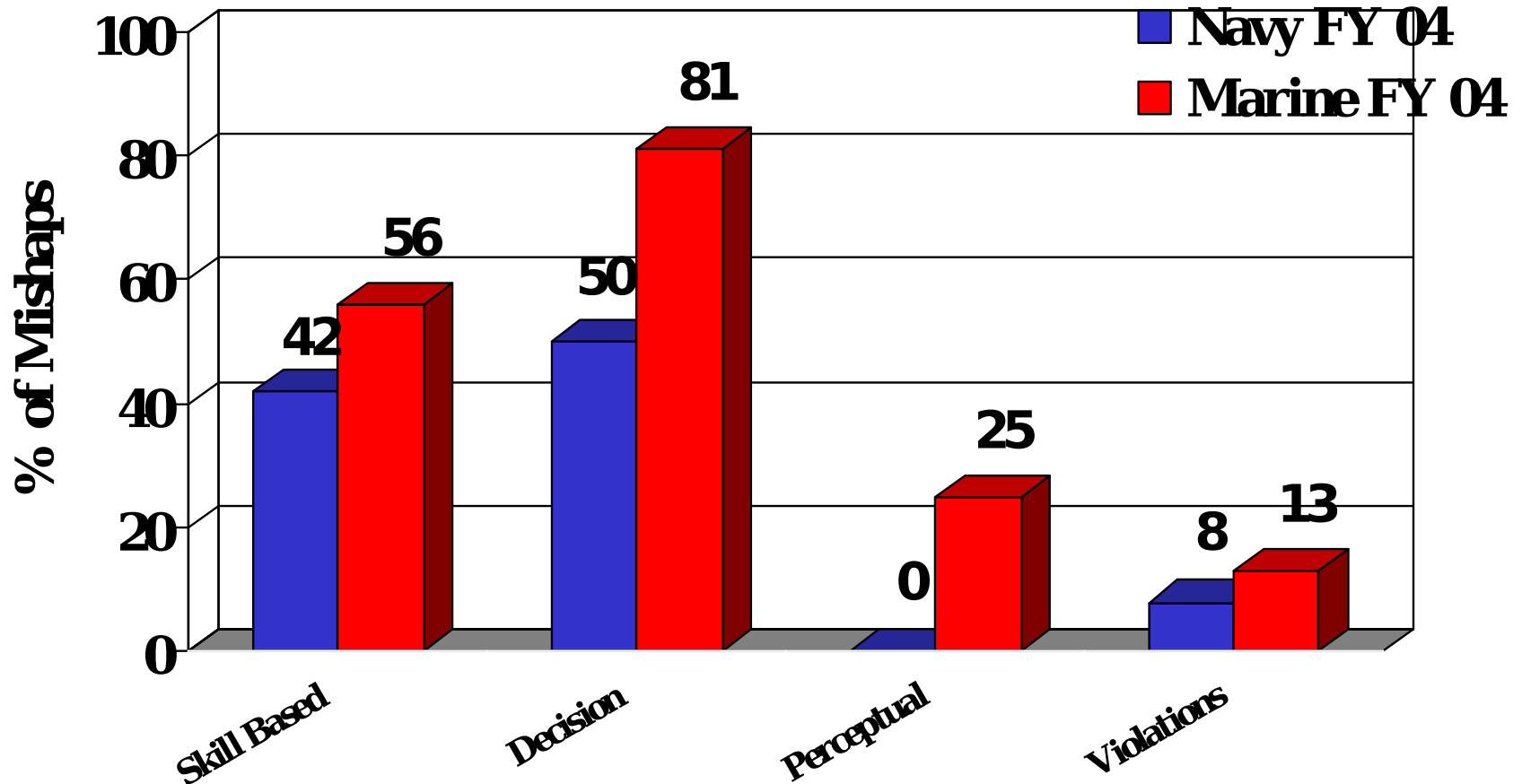
Non-  
HE  
6%

*Human Error*



# ***Human Factor Errors (FY04)***

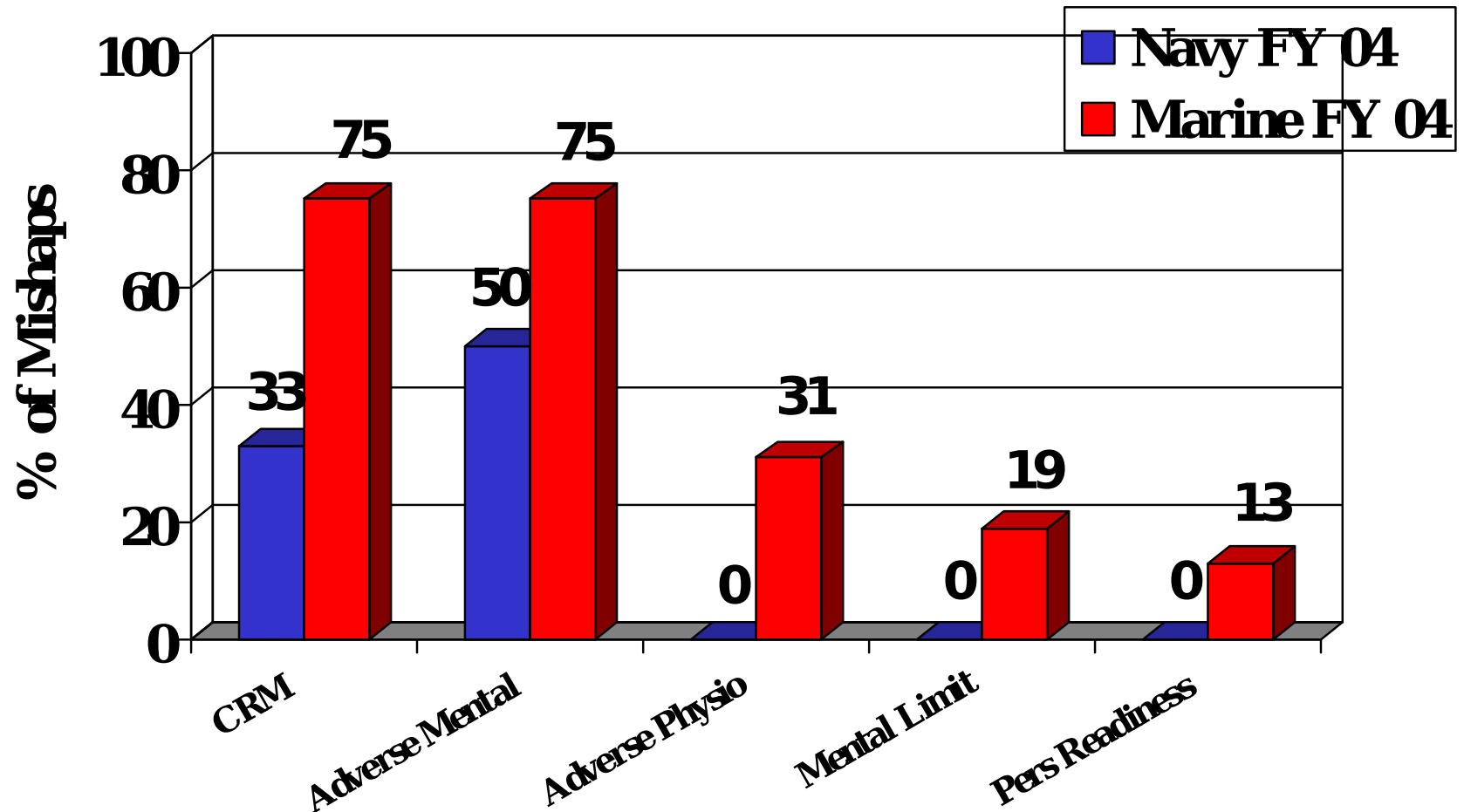
## ***Unsafe Acts - Aircrew***



**Human Factor Errors (Unsafe Acts - Aircrew)**

# ***Human Factor Errors (FY04)***

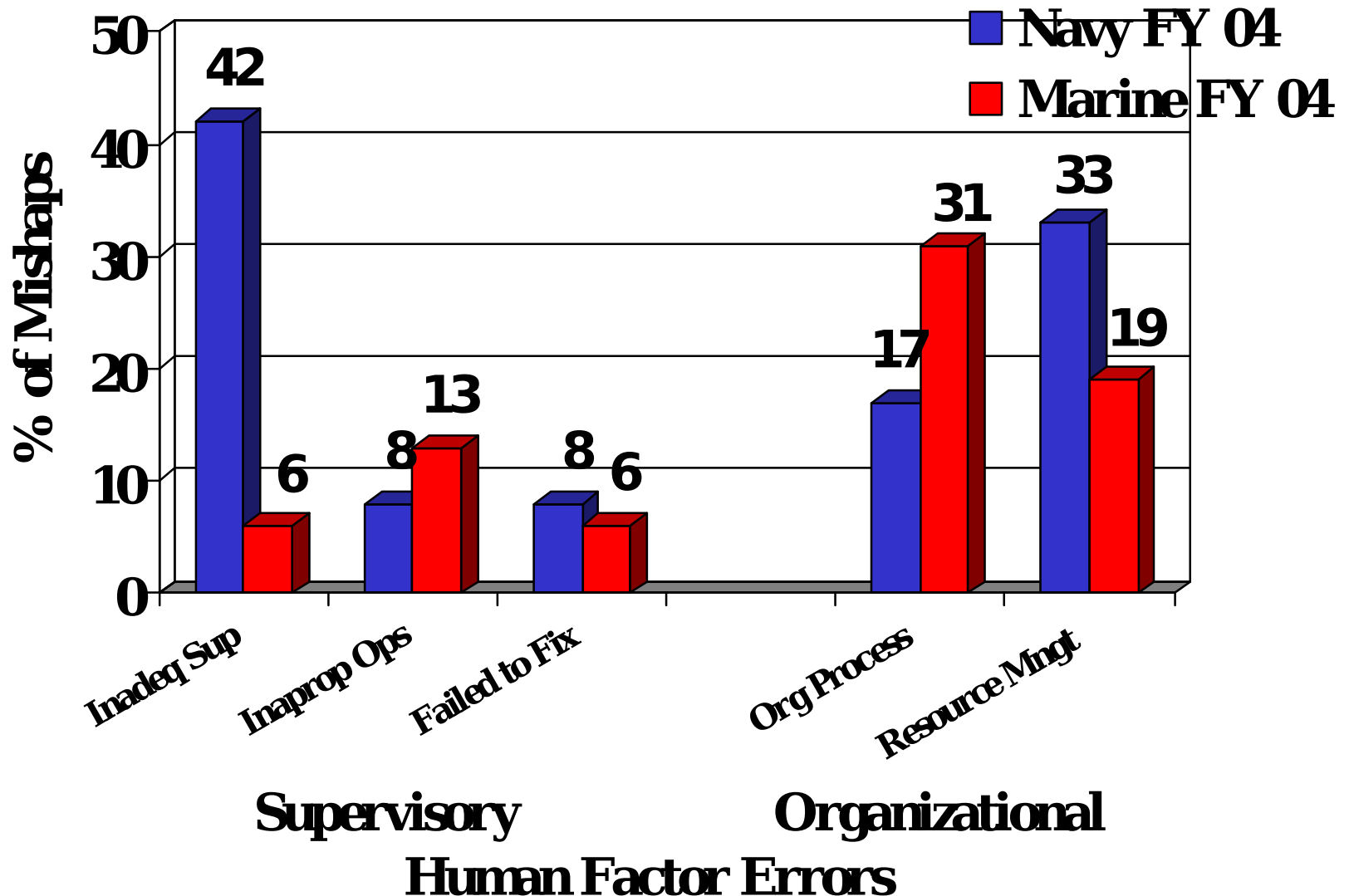
## ***Preconditions - Aircrew***



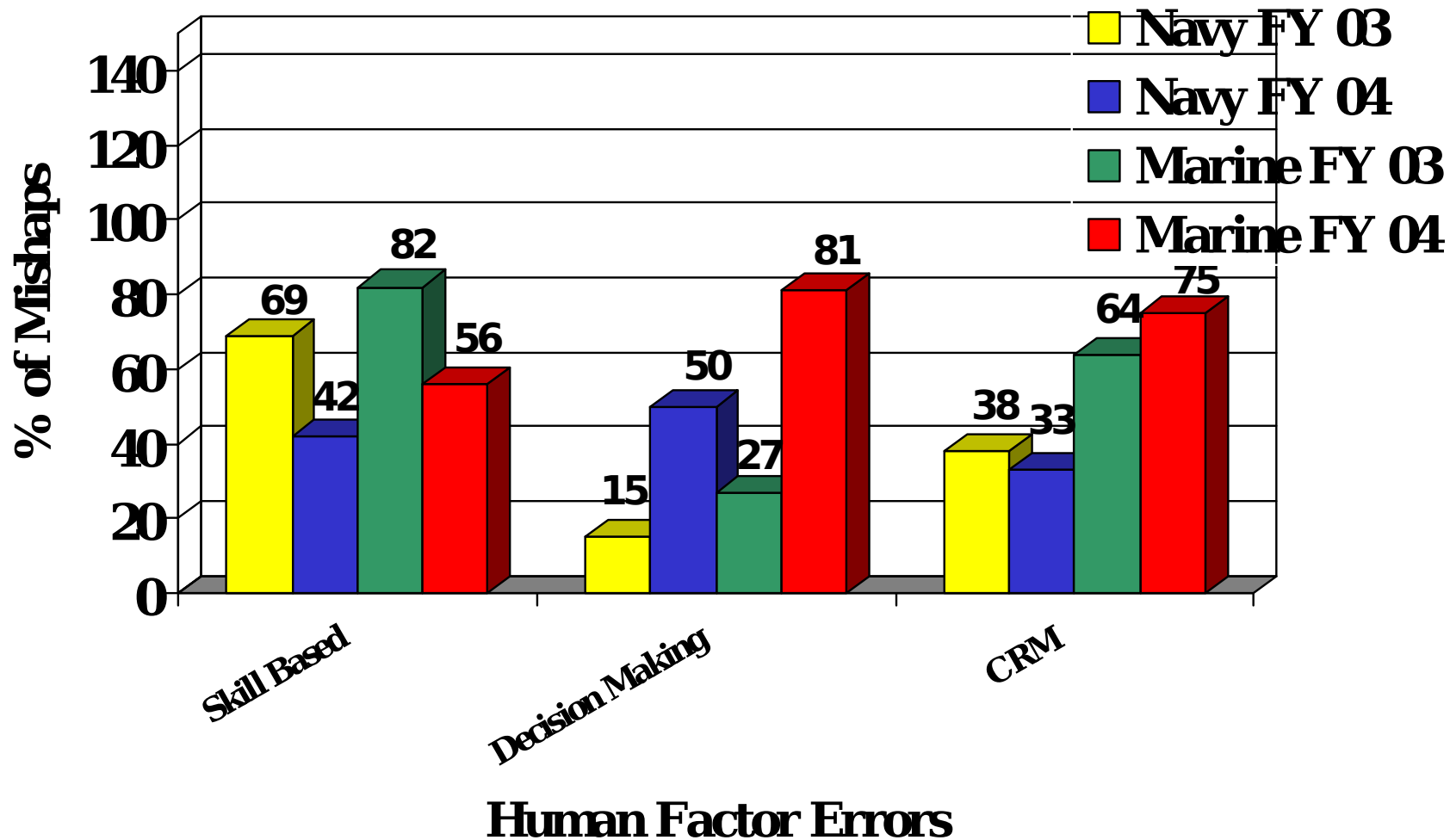
**Human Factor Errors (Preconditions - Aircrew)**

# ***Human Factor Errors (FY04)***

## ***Supervisory and Organization***



# ***Human Factor Errors FY 04 compared to FY 03***





# AVIATION

## TRENDS

### Investigations

- **Human error (aircrew): Leading causal factor**
  - Skill-based

### Survivor CRM failures

- **Many violations**
- **No experience**
- **Training quality/quantity**
- **NATOPS/technical pubs**
- **Cannibalization**

## TAKEAWAYS

- **Fund state-of-art simulators and data centric systems**
- **Improve training**
- **Increase proficiency**
- **Institutionalize ORM**
- **Enforce standards**
- **Increase checks and balances**



# ***Aviation Intervention Strategies***



# ***Survey Takeaways***

## ***FY 2003***

### **Safety Surveys on 90+ aviation co revealed:**

- ✓ Aviation HAZREP submissions
- ✓ NAMP Program Knowledge/Compliance
- ✓ High OPTEMPO (real vs perceived pressure)
- ✓ Manning vs Utilization
- ✓ Flight Surgeon availability

# ***Command Safety Assessment / Maintenance Climate Assessment Surveys***

**902 CSA's (approx. 30,500 aircrew)**

- ✓ CSA observations (aircrew)
  - ✓ **40% inadequate resources**
  - ✓ **59% commands over-committed**

**842 MCAS's (approx. 75,500 maintainers)**

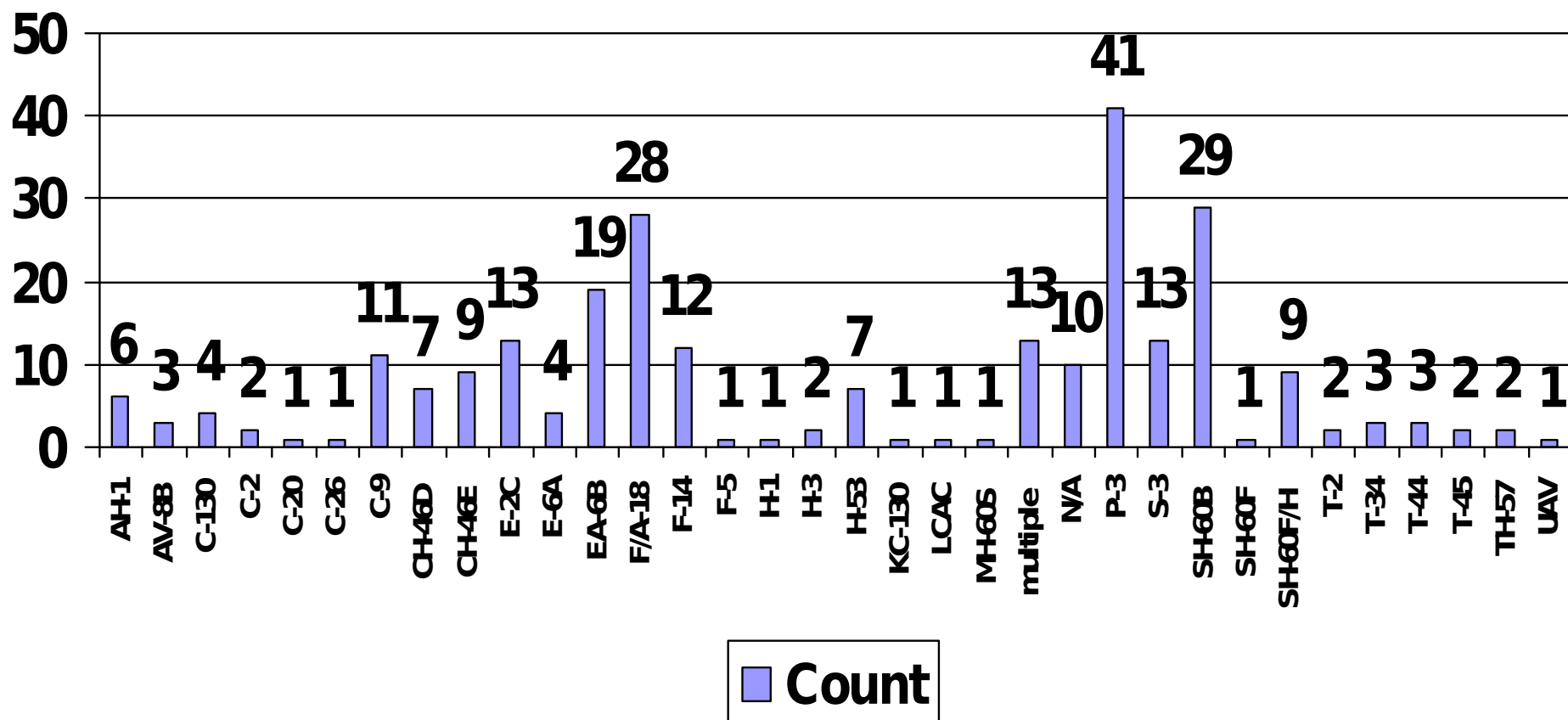
- ✓ MCAS observations (maintenance personnel)
  - ✓ **37% “cutting corners” not discouraged**
  - ✓ **50% inadequate command safety recognition**
  - ✓ **31% ineffective pass-down between shifts**
  - ✓ **48% poor communication up / down chain of command**

✓ **53% commands over-committed**



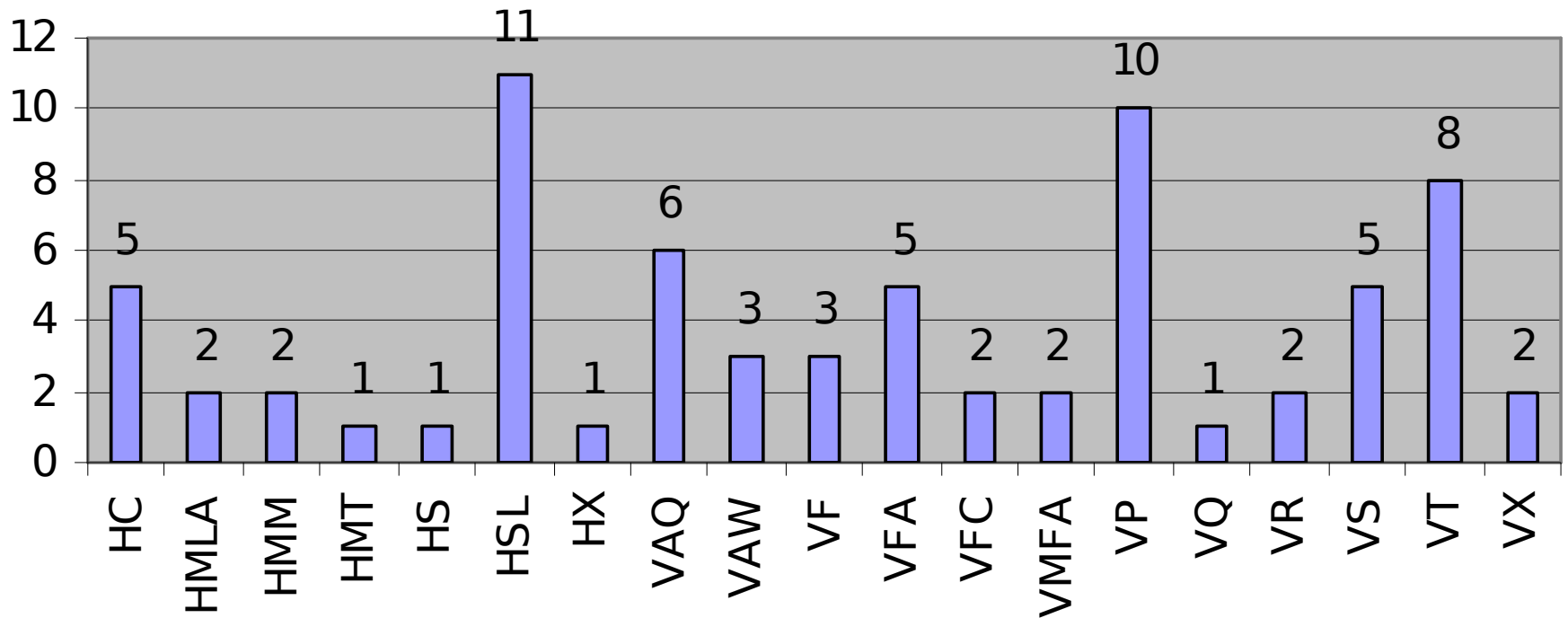
# Culture Workshops

## Completed By Aircraft Type Since FY01



# ***Culture Workshops***

## **FY04 NUMBER OF WORKSHOPS BY COMMUNITY**



# ORM and the Fleet

## COURSE S

- **Curriculum.** CNET, NSC, and NAVOSHTRACEN courses incorporate ORM into curricula.
- **Training.** Aviation, Afloat, and Submarine survey teams provide ORM refresher training upon request. Aviation, Afloat, and Submarine safety officer schools provide instructor-level ORM training.  
PCO/PYO/DH schools, DIVO training, and Senior Enlisted Academy provide training.

## ON-LINE

- **On-Line Training.** Offered through CNAF's ORM University and USMC MarineNet. Resources available on NSC website. Total Risk Assessment and Control System (TRACS) & U.S. Army Motor Vehicle Risk Assessment Tool (ASMIS).

## ORM

(OPNAVINST 3500.39B)

- AEAFAE msg announcing release and availability of instruction on NSC website 31Dec04
- Governs use of ORM throughout the Fleet
- "SHOULD" to "SHALL"

## ORM Works!

Transition to RM a Must.  
**Need it On and Off-Duty!**

## MISHAP RATES

1990  
2000  
2004

ORM Introduced to Fleet  
Aviation Mishap Rates Declining  
Afloat and Submarine Communities Show Improvements

# PERSPECTIVE

"IN 1968, WE LOST 99 AMERICAN  
SAILORS IN USS SCORPION,  
WHICH WE THINK OF AS  
A NATIONAL DISASTER;  
WHILE WE LOST  
103 SAILORS AND MARINES  
IN PMV ACCIDENTS IN 1998,  
AND CALL IT OUR 'BEST YEAR'!"

ROBERT B. PIRIE

ACTING SECRETARY OF THE NAVY

20 JANUARY - 24 MAY 2001

WHY DO WE ACCEPT  
MISHAPS?





# Status Check (PMV Fatalities)

1 year remains...

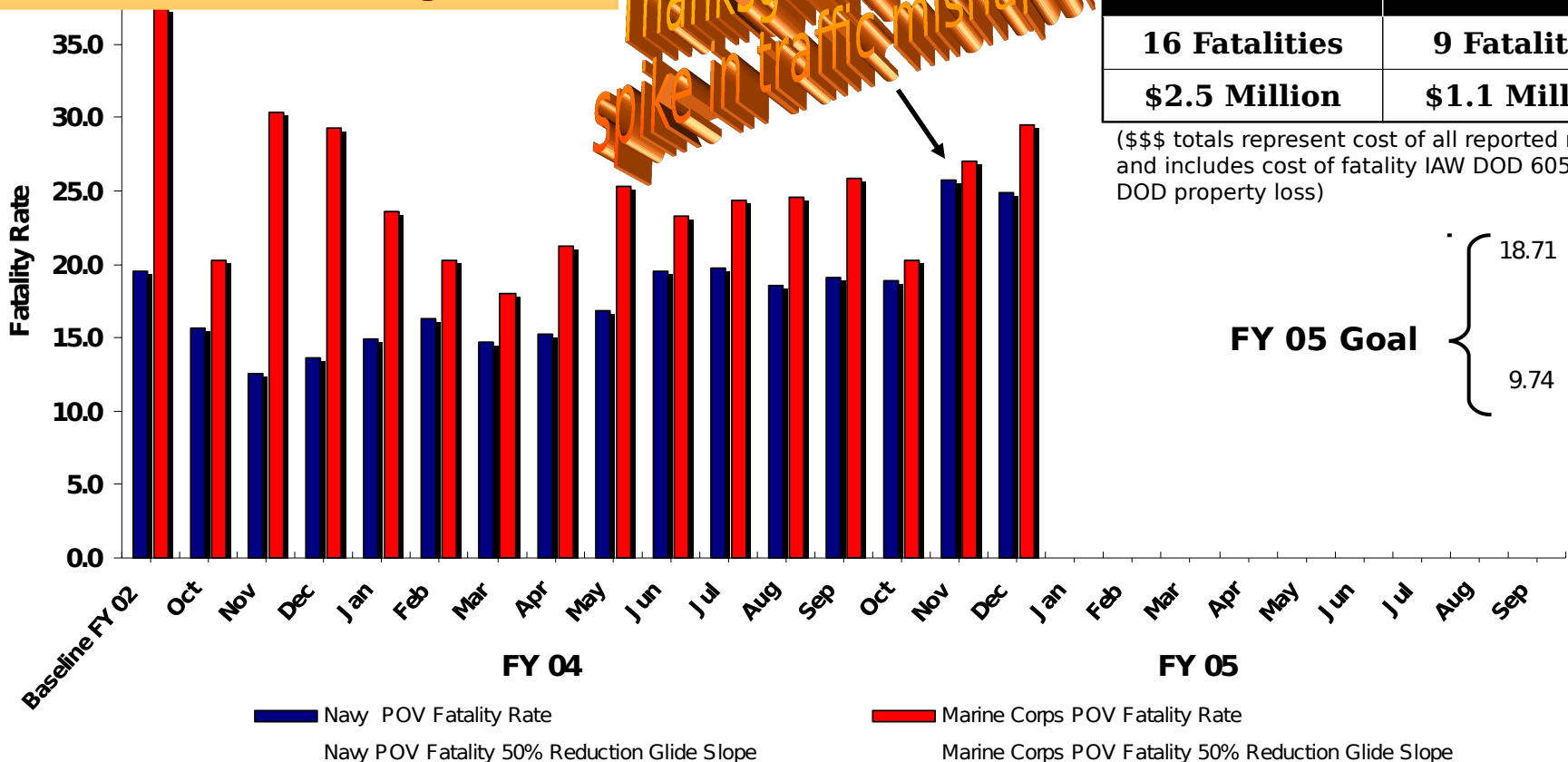
## Top Causal Factors

### WHEN

Nighttime Driving  
Use  
Weekends  
Speed

### WHY

No Seat Belt  
Excessive  
Alcohol  
Fatigue



## FY04 Losses

USN	USMC
73 Fatalities	46 Fatalities
\$13 Million	\$11.6 Million

## FY05 Losses

USN	USMC
16 Fatalities	9 Fatalities
\$2.5 Million	\$1.1 Million

(\$\$\$ totals represent cost of all reported mishaps and includes cost of fatality IAW DOD 6055 and DOD property loss)

# Factors in Traffic Deaths

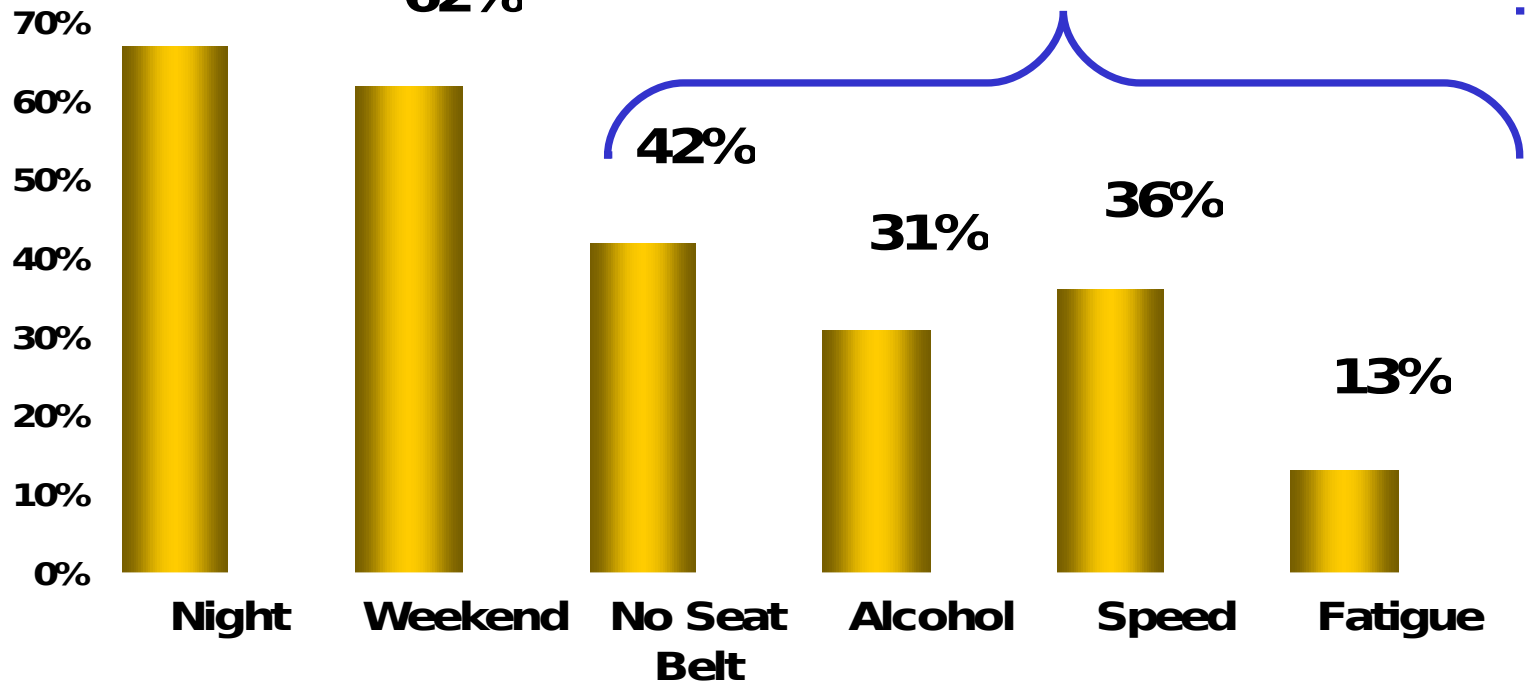
USN/USMC, FY02-04

**FY02-04 Deaths:**  
**378**

**FY05 Deaths:**  
**25**

**FY02: 140** **FY03: 119** **FY04:**  
**67%** **119**

*Where is the leadership?*



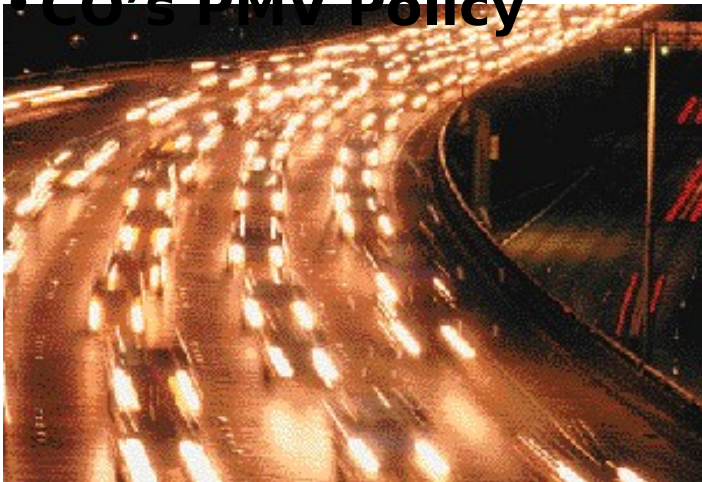
# ***Toolbox for Motor Vehicle Safety***

***([www.safetycenter.navy.mil/ashore/motorvehicle/downloads/toolbox.doc](http://www.safetycenter.navy.mil/ashore/motorvehicle/downloads/toolbox.doc))***

- **Leave Chit Statement**
- **PMV Status Board**
- **Designated Driver / CMD Transport**
- **Pre-Trip Checklist / Brief / Counseling**
- **Calling card for emergencies**
- **CO's PMV Policy**



- **PMV Safety Quiz**
- **Safety Standdowns / Seminars**
- **Pre - Holiday Briefs**
- **Newcomer orientation/Indoc**
- **Leave / Liberty request**
- **Crash Prevention Awards Program**

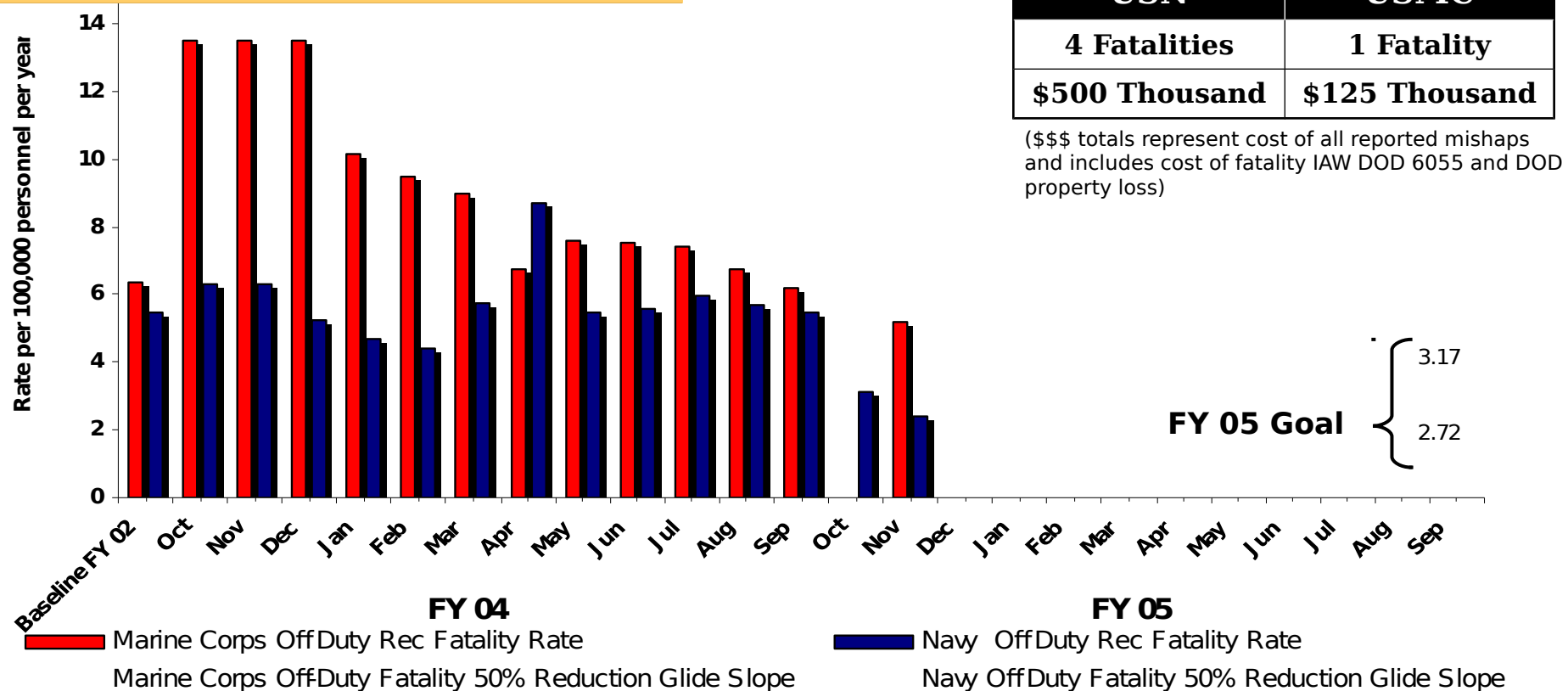


# Status Check (Recreation/Off-Duty Fatalities)

1 year remains...

## Leading Causes of Deaths & Injuries

- Drowning
- Falls
- Outdoor Recreation
- Team and Outdoor Sports
- Water Sports (jet skis, motorboat)
- Negligent firearms discharge



## FY04 Losses

USN

21 Fatalities

\$6.6 Million

USMC

11 Fatalities

\$2.9 Million

## FY05 Losses

USN

4 Fatalities

\$500 Thousand

USMC

1 Fatality

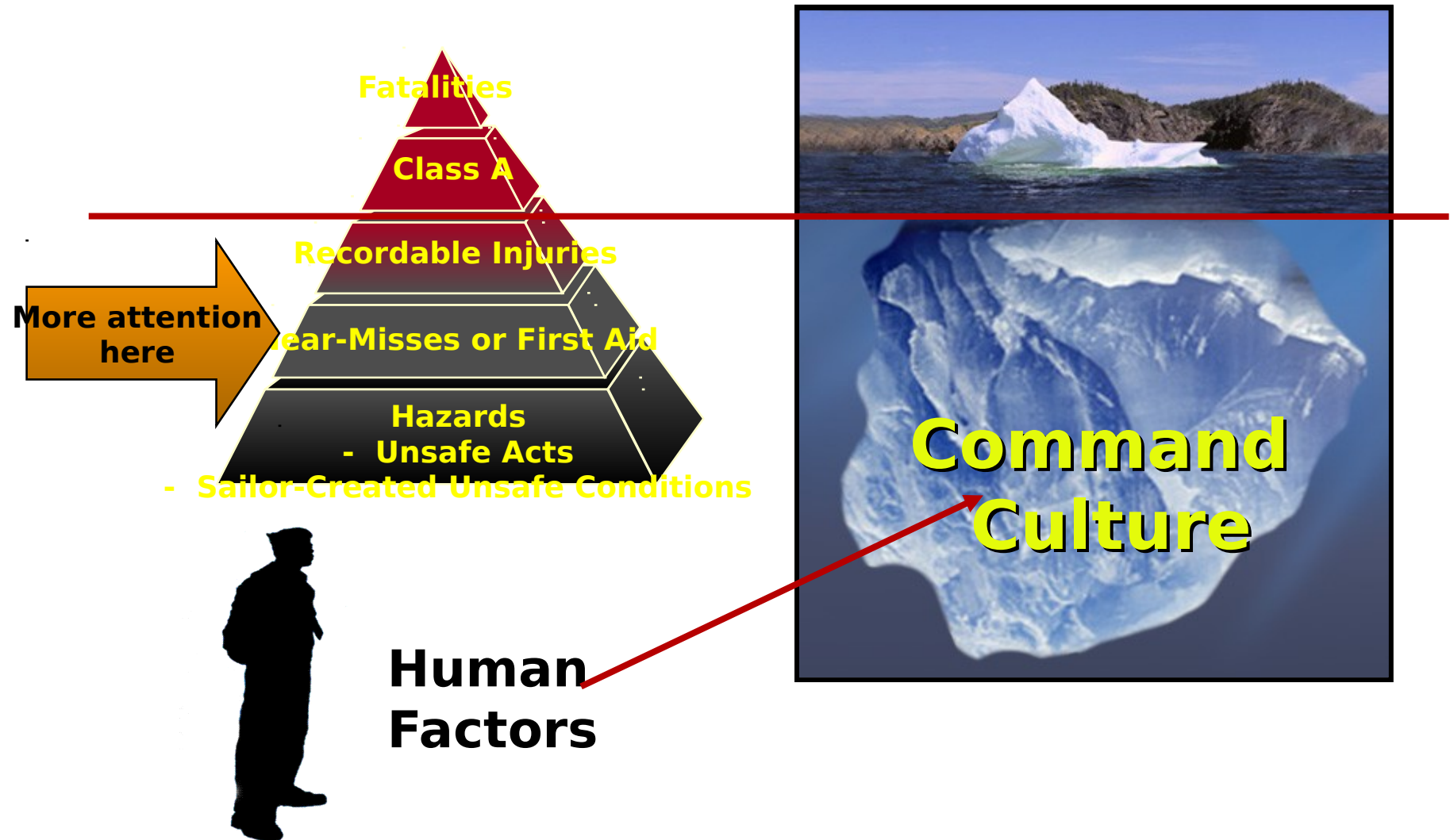
\$125 Thousand

(\$\$\$ totals represent cost of all reported mishaps and includes cost of fatality IAW DOD 6055 and DOD property loss)

NSC Data: 02 December 2004


ASC. 6 December 2004.

# *Leaders Focus on Culture*



# How To Get There - What is “Actionable”

LEADERSHIP  CO sets the climate

1. Ensure you have a consistent “Safety Structure”
2. Mentor - On and Off duty
  - 2<sup>nd</sup> MAW Mentoring Program / Revise leave chits to a “contract”
    - What are your Sailors/Marines doing after hours?
    - The “leadership hungry” PO3
  - Look for the signs “Below the Waterline!”
3. ORM  RM
  - Take it off-duty (**ORM is not “THERE” yet**)
4. Awareness - Can we improve if Sailors don’t know about Mishap Reduction Campaign???
5. Accountability - A Command with no PMV program?
6. Reporting - Hazreps? Class B, C, ....

**A Class “A” is a Class “A” is a Class “A” .....**

**- Does a Parent “care” how their Son or Daughter died?**

# ***Are We Serious About Safety?***

- Commander Accountability
  - Class A Flight Mishap vs. Class A PMV
    - Weak NATOPS program; No involvement; Bad climate
    - No PMV program; No mentorship; Bad climate
  - On and Off-Duty Responsibility
  - Proactive vs. Reactive
- Was it preventable?
- Human factors
- Command Safety “Structure”

***Safety “Climate” vs. Safety  
“Nazi”***



# ***We're Serious About Parts of Safety***

THE BUILDING BLOCKS OF SAFETY



## **DESIRED END STATE**

***Every Sailor possesses an ever-present and intuitive safety awareness that he or she carries at all times - at sea, on deployment, at work, at home, on liberty and leave.***

# ***Is It Possible?***

- **“Platform” Type Mishaps - YES!**
- **“Off-Duty” Mishaps - HARD.**
  - ***Can be done - but CHANGE a MUST!***
- ***Human Error - The “KEYS” of the realm***

# What We Can Do for You

## Naval Safety Center



Providing aviation, afloat, and shore support  
to Navy and Marine Corps commands



**NSC at your service... for free!**

Let our experience, expertise and unrivaled  
commitment to safety work for you.

**Mishap Investigations**

**Surveys**

**Assist Visits**

**Data Analysis**

**Workshops**

**Publications**

**Website**

**Presentations**

**Exhibits**

Call 757-444-3520 (DSN 564) or visit our website: [www.safetycenter.navy.mil](http://www.safetycenter.navy.mil)

## ON THE ROAD

- Culture workshops
- Unit surveys
- ORM unit training
- Mishap investigations
- USMC MTT seminars
- PCO briefings
- NAVOSHENVTRACEN Safety & Occupational Health Training

## AWARENESS

- Fleet Analysis
- Magazines printed/distributed (473,000 copies)
- Interactive CD's
- Acquisition process in-roads
- Safety advisories
- Customer information requests (3,600+ database queries per month)
- Safety Center web page





***Questions?***

